

CPEL0053514P

Patent Office of the People's Republic of China

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Applicant	ASPER OU			Seal of Examiner	Date of Issue
Agent	China Patent Agent (H.K.) Ltd.				June 20, 2003
Patent Application No.	00800623.7	Application Date	April 20, 2000	Exam Dept.	
Title of Invention	METHOD AND DEVICE FOR IMAGING AND ANALYSIS OF BIOPOLYMER ARRAYS				

First Office Action

(PCT application entering into the national phase)

1. ☒ Under the provision of Art. 35, para. 1 of the Patent Law, the examiner has made an examination as to substance of the captioned patent application for invention upon the request for substantive examination filed by the applicant.
- ☐ Under the provision of Art. 35, para. 2 of the Patent Law, the Chinese Patent Office has decided to conduct an examination of the captioned patent application for invention on its own initiative.
2. ☒ The applicant requests that
 - the filing date April 21, 1999 at the EE Patent Office be taken as the priority date of the present application,
 - the filing date at the Patent Office be taken as the priority date of the present application,
 - the filing date at the Patent Office be taken as the priority date of the present application.
3. ☐ The following amended documents submitted by the applicant cannot be accepted for failure to conform with Art. 33 of the Patent Law:
 - ☐ the Chinese version of the annex to the international preliminary examination report.
 - ☐ the Chinese version of the amended documents submitted according to the provision of Rule 19 of the Patent Cooperation Treaty.
 - ☐ the amended documents submitted according to the provision of Rule 28 or Rule 41 of the Patent Cooperation Treaty.

☐ the amended documents submitted according to the provision of Rule 51 of the Implementing Regulations of the Patent Law.

See the text portion of this Office Action for detailed reasons why the amendment cannot be accepted.

4. ☒ Examination is conducted on the Chinese version of the initially-submitted international application.

☐ Examination is conducted on the following document(s):

☐ page _____ of the description, based on the Chinese version of the initially-submitted international application documents;

page _____ of the description, based on the Chinese version of the annex to the international preliminary examination report;

page _____ of the description, based on the amended documents submitted according to the provision of Rule 28 or Rule 41 of the Patent Cooperation Treaty;

page _____ of the description, based on the amended documents submitted according to the provision of Rule 51 of the Implementing Regulations of the Patent Law.

☐ claim(s) _____, based on the Chinese version of the initially-submitted international application documents;

claim(s) _____, based on the Chinese version of the amended documents submitted according to the provision of Rule 19 of the Patent Cooperation Treaty;

claim(s) _____, based on the Chinese version of the annex to the international preliminary examination report;

claim(s) _____, based on the amended documents submitted according to the provision of Rule 28 or Rule 41 of the Patent Cooperation Treaty;

claim(s) _____, based on the amended documents submitted according to the provision of Rule 51 of the Implementing Regulations of the Patent Law.

☐ Fig(s) _____, based on the Chinese version of the initially-submitted international application documents;

Fig(s) _____, based on the Chinese version of the annex to the international preliminary examination report;

Fig(s) _____, based on the amended documents submitted according to the provision of Rule 28 or Rule 41 of the Patent Cooperation Treaty;

Fig(s) _____, based on the amended documents submitted according to the provision of Rule 51 of the Implementing Regulations of the Patent Law.

5. ☒ The following reference document(s) is/are cited in this Office Action (its/their serial

number(s) will continue to be used in the subsequent course of examination):

Serial No.	Number or Title(s) of Document(s)	Date of Publication (or filing date of interfering application)
1	US 5633724 A	Date May 27, 1997
2	US 4608344 A	Date August 26, 1986
3	US 4297032 A	Date October 27, 1981
4	US 3939350 A	Date February 17, 1976

6. Concluding comments on the examination:

☒ On the description:

- ☐ What is stated in the application comes within the scope of that no patent right shall be granted as prescribed in Art. 5 of the Patent Law.
- ☒ The drafting of the description is not in conformity with the provision of Rule 18 of the Implementing Regulations.

☒ On the claims:

- ☐ Claim(s) _____ come(s) within the scope of that no patent right shall be granted as prescribed in Art. 25 of the Patent Law.
- ☒ Claim(s) _____ has/have no novelty as prescribed in Art. 22, para. 2 of the Patent Law.1, 2
- ☒ Claim(s) 3, 9-11 has/have no inventiveness as prescribed in Art. 22, para. 3 of the Patent Law.
- ☐ Claim(s) _____ has/have no practical applicability as prescribed in Art. 22, para. 4 of the Patent Law.
- ☐ Claim(s) _____ is/are not in conformity with the provision of Art. 26, para. 4 of the Patent Law.
- ☐ Claim(s) _____ is/are not in conformity with the provision of Art. 31, para. 1 of the Patent Law.
- ☒ Claim(s) 5, 8, 10, 11, 1 is/are not in conformity with the provisions of Rules 20 of the Implementing Regulations.
- ☐ Claim(s) _____ is/are not in conformity with the provision of Art. 9 of the Patent Law.
- ☐ Claim(s) _____ is/are not in conformity with the provision of Rule 12, para. 1 of the Implementing Regulations.

See the text portion of this Office Action for detailed analysis of the above

concluding comments.

7. Based on the above concluding comments, the examiner deems that

- ☐ the applicant should make amendment to the application document(s) according to the requirements put forward in the text portion of this Office Action.
- ☒ the applicant should expound in his/its observations why the captioned patent application is patentable and make amendment to what is not in conformity with the provisions pointed out in the text portion of this Office Action, otherwise, no patent right shall be granted.
- ☐ the patent application contains no substantive content(s) for which a patent right may be granted, if the applicant has no sufficient reason(s) to state or his/its stated reason(s) is/are not sufficient, said application will be rejected.
- ☐

8. The applicant should note the following items:

- (1) Under Art. 37 of the Patent Law, the applicant should submit his/its observations within **four** months from the date of receipt of this Office Action; if, without any justified reason(s), the time limit for making written response is not met, said application shall be deemed to have been withdrawn.
- (2) The amendment made by the applicant to said application should be in conformity with the provision of Art. 33 of the Patent Law, the amended text should be in duplicate and its form should conform with the related provisions of the Guide to Examination.
- (3) If no arrangement is made in advance, the applicant and/or the agent shall not come to the Chinese Patent Office to have an interview with the examiner.
- (4) The observations and/or amended text should be sent to the Receiving Section of the Chinese Patent Office by mail or by personal delivery, if not sent to the Receiving Section by mail or by personal delivery, the document(s) will have no legal effect.**

9. This Office Action consists of the text portion totalling 3 page(s) and of the following attachment(s):

- ☒ 4 copy(copies) of the reference document(s) totalling 56 page(s).

Examination Dept. No. _____

Examiner _____

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First Office Action

I

1. Independent claim 1 claims a method of imaging and analysis of a biopolymer array. Ref. 1 (US5633724A; col. 4, line 58-col. 6, line 20, Figs. 1, 2 of the description) discloses a method of imaging and analysis of a biochemical array, wherein a light beam 114 of certain wavelength is finally directed into a substrate 102 (corresponding to the array support of this invention), an array 110 of molecular tags is provided on the substrate 102, the substrate 102 performs a waveguide transmission function to the light beam, part 116 of the light incident on the substrate 102 penetrates out of the surface 112 of the substrate 102 as an evanescent wave and excites the array 110 of molecular tags (e.g., phosphor tags) to generate the optical signal 116. In short, claim 1 has no novelty over ref. 1, which is not in conformity with the provision of Art. 22, para. 2 of the Patent Law.

2. Dependent claim 2 refers to claim 1, its additional technical feature “the beam of light is a laser beam” has been disclosed in ref. 1, claim 1 has no novelty over ref. 1, so claim 2 has no novelty, which is not in conformity with the provision of Art. 22, para. 2 of the Patent Law.

3. Claim 3 is a product independent claim, it claims a fluorescent detector for applying the methods in claims 1 and 2. Ref. 1 discloses a fluorescence detector for applying the method of imaging and analysis of a biochemical array, it comprises a computer 122, CCD208a (corresponding to the digitally controlled CCD camera of this invention), optical filters 204 (corresponding to the band-pass filters of this invention). By comparison of this invention with claim 1, the difference is: claim 3 further comprises a scattering cylindrical lens.

The teaching of using a cylindrical lens (corresponding to the scattering cylindrical lens of this invention) is disclosed in ref. 2 (US4608344A; col. 7, lines 31-53, col. 15, line 61-col. 16, line 9, Fig. 13B of the description) with the same technical field as ref. 1. Ordinary persons skilled in the art can obtain the technical solution of claim 3 according to the teaching of ref. 1 and by combining the cylindrical lens into the technical solution of ref. 1. Therefore claim 3 has no inventiveness, which is not in conformity with the provision of Art. 22, para. 3 of the Patent Law.

4. Dependent claim 10 refers to claim 3, its additional technical feature has been disclosed in ref. 3 (US4297032A; col. 4, lines 54-56, Fig. 3 of the description). Claim 3 has no inventiveness over refs. 1, 2, so claim 10 has no inventiveness over refs. 1, 2, which is not in conformity with the

provision of Art. 22, para. 3 of the Patent Law.

Dependent claim 9 refers to claim 3, its additional technical feature is that a diffraction grating is used to direct the laser beam, by comparison with the technical feature that the laser beam is directed using the optical prism in claim 10, it belongs to equivalent technical replacement. So claim 9 has no inventiveness over refs. 1, 2, 3, which is not in conformity with the provision of Art. 22, para. 3 of the Patent Law.

5. Dependent claim 11 refers to claim 10, its additional technical features belong to publicly-known general knowledge. So claim 11 has no inventiveness over refs. 1, 2, 3, which is not in conformity with the provision of Art. 22, para. 3 of the Patent Law.

6. Dependent claim 5 is not clear, its additional technical feature “a modulating element ... support (1)” doesn’t clearly indicate the structural feature of the modulating element, therefore it is not in conformity with the provision of Rule 20, para. 1 of the Implementing Regulations of the Patent Law.

7. Dependent claim 8 refers to claims 3-7, the additional technical feature “the edge or side surface of entry of the laser beam into the support, is

polished” of claim 8 is contradictory to the additional technical feature “the edge or side surface of entry of the laser beam into the support, is frosted” of claim 7, obviously, the referring-to relation of claim 8 is improper, thus making the protection scope of claim 8 unclear, which is not in conformity with the provision of Rule 20, para. 1 of the Implementing Regulations of the Patent Law.

8. Similarly, the dependent claims 10, 11 refer to claim 9, the additional technical features are contradictory, obviously the referring-to relation of claims 10, 11 is improper, thus making the protection scope of claims 10, 11 unclear, which is not in conformity with the provision of Rule 20, para. 1 of the Implementing Regulations of the Patent Law.

9. Besides, claims 1, 2 have no novelty over ref. 4 (US3939350A; col. 8, line 3-col. 9, line 17, Figs. 2, 3 of the description), which is not in conformity with the provision of Art. 22, para. 2 of the Patent Law.

II

If the applicant doesn't agree with the above examination result, sufficient observations should be made. If the observations are not sufficient or no sufficient observations are made, under the provision of Art. 38 of the Patent Law, this application will be rejected for it belongs to the circumstance prescribed in Rule 53, item (2) of the Implementing

Regulations of the Patent Law. Even if the applicant agrees with the above examination result, but the above defects are not entirely overcome, this application will be rejected.

Note: 1) when the amendment is made, the scope of the disclosure contained in the initial description and claims shall not be exceeded and the provision of Art. 33 of the Patent Law shall not be contravened. 2) (This sub-item relates to the agent's work, which will be dealt with by us--the agent's note.)

(Part III relates to expression in the Chinese version, which will be dealt with by us---the agent's note.)